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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/250.770 05/27/94 KIM

Y P53706

EXAMINER

YOCKEY, D

E1M1/0910

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ART UNIT

PAPER NUMBER

DATE MAILED 2108

09/10/96

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/250,770

Applicant(s)
Kim

Examiner
David Yockey

Group Art Unit
2108



☒ Responsive to communication(s) filed on Jun 20, 1996

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-24 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-24 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☒ The drawing(s) filed on May 27, 1994 is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

☒ After Final Facsimile Program Information and Cover Sheet

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2108

DETAILED ACTION

Drawings

1. The drawings are objected to because Figures 2A-2D are not designated by a legend such as "Prior Art". The legend is necessary in order to clarify what applicant's invention is. MPEP § 608.02(g). Correction is required.

Specification

2. The disclosure is objected to because of the following informalities:

The "Cross Reference To Related Applications" section is inappropriate because a foreign priority document does not constitute a "related application" for purposes of this section; deletion of this section is respectfully recommended.

Page 7, line 12 through page 10, line 8 should be in the Background of the Invention section of the specification.

Appropriate correction is required.

Specification

3. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains,

Art Unit: 2108

or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to adequately teach how to make and/or use the invention, i.e. failing to provide an enabling disclosure.

The specification does not enable one of ordinary skill to make the printing control means, the data bus means and the beam scanning means because the structure for performing the separate functions attributed thereto is not disclosed.

Further, the specification does not enable one of ordinary skill to make the invention as a whole because the structure of the invention is not clearly recited in the specification; particularly, the specification at page 10 states that the stages that are the same or similar to those of the conventional techniques described previously will be assigned with the same reference numerals. Thus, it is not clear whether any given element with a numeral the same as the prior art is actually the same element as in the prior art, and if not its structure is wholly unspecified.

Art Unit: 2108

Claim Rejections - 35 USC § 112

4. Claims 1-24 are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

5. Claims 1-24 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims include recitations of means without specification of a function therefor; e.g. claim 5 recites "mode selecting means, but specifies no function therefor.

It is not clear what element in the specification corresponds to the clock signal generating means recited in claim 23.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Art Unit: 2108

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

7. Claims 1-24 are rejected under 35 U.S.C. § 103 as being unpatentable over the Applicant's admitted prior art in FIGS. 1, 2A-2D in view of Tomita et al. and Hayashi et al. 4,989,039.

The admitted prior art teaches the claimed invention except the chopping means.

Tomita et al. disclose chopping means 3 providing chopped data by dividing data from a data transmitting means 4 in accordance with a clock signal (STB) from the combination of pulse signal generating circuit 6 and pulse signal selection circuit 7, illustrated in detail in FIG. 11. The Tomita et al. chopping means 3 controls provision of beam data by a print control means 2, thereby changing the power level of a light source in array 1. The pulse selection input to pulse signal selection circuit 7 is deemed to be a mode selecting means and the pulse selection signal is deemed to be a dividing ratio component which is broadly interpreted as being a component of the input data, as it is data which must be input along with pixel data to operate the apparatus.

Hayashi et al. '039 teach that it is known in the art to change a power level of a light source in an electrophotographic

Art Unit: 2108

developing type reproduction apparatus in accordance with changes in environmental conditions, thereby facilitating provision of an image forming apparatus capable of forming an image with satisfactory tonal rendition regardless of changes in environmental conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the Tomita et al. chopping means, pulse signal generating circuit and pulse signal selection circuit with the admitted prior art apparatus. The reason for the combination is to enable change of power level of the admitted prior art light source in accordance with changes in environmental conditions, thereby facilitating provision of an image forming apparatus capable of forming an image with satisfactory tonal rendition regardless of changes in environmental conditions.

In the combination, the Tomita et al. clock signal (STB) is suggested to be higher frequency than the clock signal 52 from dividing unit 50, since this is necessary for the different frequencies to have an effect on power level of the light source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to generate both the first clock signal and second clock signal by dividing a same clock signal from a single generator, particularly because it is known in the art to generate different clock signals by dividing a

Art Unit: 2108

single clock signal, as evidenced by Tomita et al. FIG. 11. The reason for dividing from a single clock is to reduce the number of elements in the invention.

The steps of the method are deemed to be made clearly obvious by the functions of the structure of the combination discussed above.

Response to Amendment

8. At various points in the amended claims "[light]" is recited; the presence of the pair of opening brackets in each instance is understood to be a word processing error and the term in each instance is understood to be "[light]", i.e. indicating deletion of the word "light".

9. It is noted that Applicant did not respond to one point of indefiniteness in the prior rejection.

10. Applicant's arguments filed 6-20-96 have been fully considered but they are not deemed to be persuasive.

Applicant notes that "no claim 17 was originally filed, accordingly, the forgoing amendment rennumbers claims 18-25 as claims 17-24, respectively." The Examiner agrees and notes that Applicant's renumbering is correct.

Art Unit: 2108

Applicant asserts that "The Examiner has erroneously objected to Figs. 2A-2D as not being designated as 'Prior Art'." The Examiner respectfully disagrees. Applicant argues in support of the assertion "Note, however, that Figs. 2A-2D are the result of the Applicant's own work using the "Prior Art" device of Fig. 1. Accordingly, Figs. 2A-2D are not prior art." This argument is not deemed to be persuasive and is deemed to be fully addressed in the prior Office Action at page 10, lines 18-21. Applicant further argues in support of the assertion "Additionally, as evidenced from the Declaration/Oath, the Applicant is a citizen of Korea, and, as such, performed the work on the device of Fig. 1 in Korea in order to obtain the results depicted in Figs. 2A-2B. Therefore, since there is no showing that Figs. 2A-2D were known to anyone other than the Applicant *in this country* nor is there a showing that Figs. 2A-2D were *patented or published in this or a foreign country*, then Figs. 2A-2D can not be deemed to be 'Prior Art'." This argument is not deemed to be persuasive; this argument is also deemed to be fully addressed in the prior Office Action at page 10, lines 18-21. Applicant further asserts that "the Examiner has erroneously indicated that it is necessary to label Figs. 2A-2D 'in order to clarify what applicant's invention is". The Examiner respectfully disagrees that the "indication" is erroneous; the "indication" is in accordance with MPEP 608.02(g). Applicant

Art Unit: 2108

argues in support of the assertion that "the claims define the Applicant's invention and the specification provides a description of the claimed invention. Accordingly, since Figs. 2A-2D are related to Fig. 1, and since there is nothing in the claims or the specification which would remotely suggest that Figs. 2A-2D are related to the claimed invention, then it is not necessary to clarify the claimed invention by adding an extraneous label to Figs. 2A-2D. This argument is not deemed to be persuasive. The labelling of Figs. 2A-2D as "Prior Art" is required because Figs. 2A-2D illustrate prior art; the "indication" is in accordance with MPEP 608.02(g).

Applicant requests whether it would be acceptable to the Examiner to change "CROSS REFERENCE TO RELATED APPLICATIONS" TO -CLAIM OF PRIORITY--. This change would be acceptable.

Applicant argues that the Examiner's "argument", that the overwhelming majority of patents that have issued do not include references to foreign documents in the cross reference to related applications section, is untenable, "since the Examiner has not shown that the originally filed specifications for these issued patents attempted to include a reference to foreign documents in the cross reference to related applications section". This argument is not deemed to be persuasive. What is noted by Applicant as being an argument is not; it is a statement of fact, noted in response to Applicant's noting of one patent including a

Art Unit: 2108

reference to foreign documents in the cross reference to related applications section. It is noted that simply finding a patent having a given inconsistency from other patents does not make that inconsistency acceptable. Applicant further argues "that portion of the specification between page 9, line 1 and page 10, line 8 discuss the Applicant's work with regard to Figs. 2A-2D, which figures, as discussed earlier, are not prior art.

Accordingly, since the discussion of Figs. 2A-2D are the result of the Applicant's work with respect to the apparatus of Fig. 1 and as such are entitled to [be] discussed in the detailed description portion of the specification, then it is clearly evident that the description of Fig. 1 should remain as originally filed to preserve the continuity of the specification." This argument is not deemed to be persuasive; this argument is also deemed to be fully addressed by the remarks above and in the prior Office Action at page 10, lines 18-21.

Applicant states "The Examiner should note the 'Forward' section of the MPEP". The "Forward" has been noted.

Applicant states that "the Examiner should point out where the MPEP requires or authorizes the Examiner to object to the specification because it refers to a foreign document in the cross reference to related applications section or because a detailed discussion of a figure labelled "Prior Art" is in the detailed description section of the specification instead of the

Art Unit: 2108

background section of the specification". The Examiner respectfully disagrees. Examiners are not required to point out the basis in the MPEP or elsewhere for every minor objection to the disclosure. Nevertheless, MPEP 608.01 gives Examiners the authority to object to the disclosure because of minor informalities. This section, as indicated by the statement "Use this paragraph to point out minor informalities such as spelling errors, inconsistent terminology, numbering of elements, etc., which should be corrected" in an Examiner's note regarding form paragraph 7.29, substantially leaves to the Examiner's discretion determination of what is deemed to be a minor informality.

In responding to the objection to the specification, Applicant argues that the print control means, the data bus means and the beam scanning means are disclosed as being Prior Art with respect to Fig. 1, and, consequently, that the specification is enabling. The Examiner respectfully disagrees. Whether or not the noted means are the same as elements of the prior art is in question, since, as noted in the objection, the it is not clear whether any given element with a numeral the same as the prior art is actually the same element as in the prior art, due to the noted statement at page 10 of the specification. Applicant further argues that the Examiner has failed to establish a reasonable basis to question the enablement provided for the claimed invention because "It is not understood how the teachings

Art Unit: 2108

of Tomita et al. and Hayashi et al. would have enabled one of ordinary skill in the art to modify the device of Prior Art Fig. 1, but yet be unable to modify the device of Prior Art Fig. 1 based on the teachings found in the present specification". This argument is not deemed to be persuasive. Applicant's specification does not clearly indicate that the device of Prior Art Fig. 1 is modified based on the teachings found in the specification, particularly in view of the noted statement at page 10 of the specification. Applicant further argues that beam scanning units and print control units are well known in the art by reference to Yamamoto et al., U.S. Patent No. 3,894,182, and thus that the rejection is in error and should be withdrawn. This argument is not deemed to be persuasive. While the aforementioned units are well known, the noted statement at page 10 of the specification is inconsistent with Applicants remarks that the noted means are well known and prior art. Consequently, it is unclear what elements are prior art and what elements are not.

Applicant's admission that the claimed print control means, data bus means and beam scanning means are prior art is noted.

Applicant argues that the function of the *mode selecting means* of claim 5 is *enabling a user to change a characteristic of said second clock signal*. This argument is not deemed to be

Art Unit: 2108

persuasive; this argument is deemed to be fully addressed in the prior Office Action at page 9, lines 3-12.

Applicant argues that the recitation of a means having more than one function is not indefinite due to the decision from In re Kelly, 134 USPQ 397. This argument is not deemed to be persuasive; this argument is deemed to be fully addressed in the prior Office Action at page 9, lines 13-21.

Applicant asserts that, in view of Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675, 7 USPQ2d 1315, "the question is raised, if one of ordinary skill in the art were looking for an alternate method for adjusting the density of printed images without adjusting the bias voltage of a developing unit in a laser printing device, such as that depicted by Prior Art Fig. 1, would one look have looked to the Tomita and Hayashi et al. patents?" The Examiner respectfully disagrees. In the noted decision, the references were indicated as being combined to solve substantially identical problems to those disclosed by the Appellant without adequate suggestion from the references. This is not the situation in the instant application. In the instant application, the reason for the combination (i.e. to enable change of power level of the admitted prior art light source in accordance with changes in environmental conditions, thereby facilitating provision of an image forming apparatus capable of forming an image with satisfactory tonal rendition regardless of

Art Unit: 2108

changes in environmental conditions) involves solution of a problem which differs significantly from that disclosed by Applicant and is suggested by the cited references. In view of the fact that the apparatus of Prior Art Fig. 1, Tomita et al. and Hayashi et al. are all analogous art as being from the optical recording art and in view of the fact that the combination of references is made to solve a different problem than that disclosed by the Applicants, Diversitech Corp. v. Century Steps, Inc., as interpreted by the Applicant, is not pertinent to the instant rejection and the question asserted by the Applicant to be raised is deemed to be moot.

Applicant's interpretation of Tomita et al. at page 16, lines 5-11 is correct, although it is noted that the teachings of Tomita et al. are not limited to those noted.

Applicant asserts that "Tomita is a solid scan device, i.e., a device using an LED array whereas the device in Prior Art Fig. 1 uses a laser beam." The Examiner agrees. Applicant further asserts that "The problem of different densities between elements in an LED array do not occur in a laser driven device, which does not have a plurality of elements." The Examiner agrees to the extent that the problem does not occur in a laser driven device which does not have a plurality of elements; however, Applicant's sentence structure suggests that all laser driven devices do not have a plurality of elements, an assertion which is respectfully

Art Unit: 2108

submitted to be erroneous. Based on the aforementioned assertions, Applicant argues that one of ordinary skill would not have been motivated by Tomita et al. to modify the laser printing device of Prior Art Fig. 1. This argument is not deemed to be persuasive. First, a laser beam may be generated by a light emitting diode; particularly, laser diodes are diodes which emit light, i.e. a laser beam, and are thus light emitting diodes. Second, Tomita et al. is not bodily incorporated into the Prior Art Fig. 1 apparatus in the combination; only structure for changing a power level of a light source is combined so as to enable changing of the power level of the Prior Art Fig. 1 laser. The test for obviousness is not whether the features of one reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the combination of references makes obvious to one of ordinary skill in the pertinent art.

Applicant argues that Tomita et al. and Hayashi et al. are silent with regard to changing the bias voltage of a developer to adjust the amount of the toner developed. This argument is not deemed to be germane to the issue because no recitation regarding changing the bias voltage of a developer to adjust the amount of the toner developed is found in the claims.

Applicant argues that Hayashi et al. does not provide any teaching which would have suggested using Tomita et al. in order

Art Unit: 2108

to modify the laser printing device of Prior Art Fig. 1. This argument is not deemed to be persuasive. The combination of the teachings of the Prior Art Fig. 1, Hayashi et al. and Tomita et al. suggests the modification of the Prior Art Fig. 1, where Tomita et al. disclose apparatus which enables changing a power level of a light source and Hayashi et al. disclose that it is known in the art to change a power level of a light source in an electrophotographic developing type reproduction apparatus in accordance with changes in environmental conditions, thereby facilitating provision of an image forming apparatus capable of forming an image with satisfactory tonal rendition regardless of changes in environmental conditions. Consequently, by combining structure as disclosed by Tomita et al. with the Prior Art Fig. 1 apparatus, it is possible to adjust the power level of the laser in the Prior Art Fig. 1 apparatus in accordance with changes in environmental conditions, as suggested by Hayashi et al.

Applicant argues that Hayashi et al. does not suggest that the varying of current disclosed is in any way an alternative to the known method of changing the bias voltage of a developer to adjust the amount of the toner developed. This argument is not deemed to be persuasive because, as noted above, changing the bias voltage of a developer to adjust the amount of the toner developed is not found in the claims.

Art Unit: 2108

Applicant argues that Hayashi et al. may teach modifying the current supplied to beam scanning unit 30 of Prior Art Fig. 1, but Hayashi clearly does not teach nor suggest adjusting density in Prior Art Fig. 1 by chopping the data provided by data transmitting unit 10 in accordance with a second clock signal in order to provide chopped data to the print control unit 20. This argument is not deemed to be persuasive. It is noted that the claims are rejected over a combination of references, wherein Tomita et al. is cited as a teaching of structure which chops the data provided by the data transmitting unit in the combination. One cannot show non-obviousness by attacking references individually where, as here, the rejections are based on combinations of references.

Pertinent Prior Art

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Watanabe et al. teaches a chopper circuit 63 for controlling the supply of power to a recording element 1.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS

Serial Number: 08/250,770

-18-

Art Unit: 2108

ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

13. Any inquiry concerning this communication should be directed to David Yockey at telephone number (703) 308-3084.

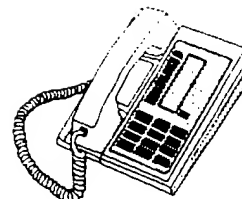
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September 3, 1996

B.R. Fuller

BENJAMIN R. FULLER
SUPERVISORY PATENT EXAMINER
ART UNIT 218

GROUP 2100'S QUALITY SERVICE
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Docket No.:

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Note:

Attachment AF

Paper No. 14

Group 2100 After Final Facsimile Program

Applicant(s) is/are encouraged to respond to this Office action directly to Group 2100 by facsimile transmission at (703) 305-3431 or (703) 305-3432. The facsimile transmission service is provided as part of Group 2100's Quality Service After Final program to improve communication with our customers. If this service is utilized please use the attached Group 2100 cover sheet. A confirmation copy should not be mailed to the Patent and Trademark Office, see 37 CFR 1.6(d) and 1.8(b).